



The

GARzette



The Official Newsletter of the Gwinnett Amateur Radio Society

February 2025 <http://www.gars.org/> Volume 52, Issue 2

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www.GARS.org

**Don't forget to support our
advertisers at the back of the
GARzette.**



**GARS January Exhibition of the
Technical aspects of Amateur Radio
Held at the Gwinnett County Fairgrounds**

The next TechFest is January 31, 2026

**GARS Meeting: Transmission Lines (Coax/Ladder Line) by Kevin Scott K4GTR
Tuesday January 14, 2025 at 7:00 PM**



President's Message

From the President...

Wow – what a way to start the year at GARS. Snow twice in one week is definitely not the norm here in Georgia. Big thanks to the TechFest committee for navigating the weather and quickly moving the date to keep everyone safe. It was another successful event. All the forums looked well attended; everyone I spoke to was genuinely enthusiastic about attending the event and learning something, and lunch was excellent, as usual. Of course, my big highlights were the high-altitude balloon forum and launch (the room was standing room only) and having several one-on-one discussions with people.

Looking at upcoming events, the upcoming ARISS contact at Woodward Mill is in a couple of weeks. It is an excellent opportunity for local students to connect with astronauts on the ISS through amateur radio. Look for more information



on listening and watching the contact via the groups.io page.

At the end of March, GARS and Gwinnett ARES will help with our annual dog show, which is a big fundraiser for the club. This helps ensure we can continue running events throughout the year. Please keep an eye out on the website for more details and to sign up to volunteer.

Lastly, this will be my last article as president. It has been a great year getting to know more people in the club. Looking forward to participating as a volunteer for many more events to come and to how the next leadership will take the club.

73,

Kevin W4KIB
Club President

GARS Repeaters and Other Communications

| | | |
|--|--|--|
| <u>2 Meter Repeaters</u> 147.075(+) MHz Tone 82.5 147.255(+) MHz Tone 107.2 <u>1.25 Meter Repeater</u> 224.580(-) MHz Tone 100.0, 1.6 MHz Offset <u>70 Cm Repeaters</u> 444.525(+) MHz Tone 82.5 442.100(+) MHz Tone 100 442.325(+) MHz Tone 100 | <u>6 Meter Repeater</u> 53.110 (-1 MHz) No Tone (Offline for Maintenance) Other Resources: <u>APRS</u> 144.390 -- 1200 Baud W4GR <u>D-STAR (WD4STR)</u> 145.060 + (1.4 MHz) 440.550 + (5 MHz) | 6M Currently down 147.075 Operational in Snellville 147.255 Operational in Snellville 224.580 Operational in Grayson 442.100 Operational at Goshen Springs Rd, Norcross 442.325 Operational in Buford 444.525 Operational in Snellville Link remote receivers being added |
|--|--|--|

Notable Web Links

Ham Radio Glossary: <https://noji.com/hamradio/glossary.php> a very comprehensive listing provided by Noji Ratzlaff KNØJI. On his site there is also a lot of information about getting started in ham radio.

Need Help – Let GARS Elmers answer your questions

Send an email to elmers@gars.org with the subject listing the area (like Antennas, Repeaters, Digital, DMR etc.) of your query to get to GARS Elmer volunteers.

About the GARzette

The *GARzette* is the official monthly newsletter of the Gwinnett Amateur Radio Society, serving its members and other persons interested in the advancement of the Amateur Radio art.

Original articles, art, and photos are invited and encouraged. Previously copyrighted submissions cannot be accepted for reprinting unless permission from the appropriate publisher is provided in writing along with the information being submitted. If reprints are from publications allowing their unrestricted use, please include a copy of the printed permission contained in the publication.

If possible, bring your articles to the monthly meeting in Microsoft Word or rich text (.rtf) or text or HTML format or by e-mail to editor@gars.org. Artwork can be accepted in most any graphics format and can be submitted via e-mail to the same address. Alternate means of submittal can be arranged when necessary.

In keeping with the Amateur Radio spirit, permission is hereby granted for the reproduction of The *GARzette* articles by other Amateur Radio club newsletters provided that proper credit is given to the individual author and *The GARzette*.

The GARzette is published each month with the assistance of Karen KI4HPP and Kyle W4KDA who print copies for distribution at meetings, etc. and Dave Bruse, W4DTR, who distributes the newsletter electronically.

Deadline for submissions is the 28th of each month for inclusion in the following month's issue.

For additional information view our Website at: <http://www.gars.org> [PS— Articles to publish in the *GARzette*, either written by GARS members or published elsewhere, are always welcome. —Ed.]

Newsletter Email: editor@gars.org Editor: Bob Hoffmann, K4CQO

GARS Meetings & Workshops

GARS Meetings and Workshops are held in-person at the EAA 690 Hangar, 690 Airport Rd, Lawrenceville, GA 30046.

Meetings and Workshops are OPEN to all, feel free to share your invite with others.

Zoom login info will be posted to <http://www.gars.org> prior to the meeting.

GARS Meetings Schedule (second Tuesday @ 7:00 PM): (these are the presentations)

- February 11 - Transmission Lines (Coax/Ladder Line) by Kevin Scott K4GTR
- March 11 – TBD
- April 8 – TBD

Workshop Schedule (third Tuesday @ 7:00 PM): (these are the Hands-on Workshops)

- February 18 - Transmission Lines (Coax/Ladder Line) by Kevin Scott K4GTR
- March 18 – TBD
- April 15 – TBD

GARS Meeting – February 11, 2025
Transmission Lines (Coax/Ladder Line)
by Kevin Scott K4GTR

GARS Workshop – February 18, 2025

To communicate on amateur radio, you must have a good transmission line to both send and receive successfully. Choosing the right cable type for the job and band is critical to achieving successful contact and, of course, choosing the right type of antenna. Antenna matching is all important as well. Coax (unbalanced) vs Ladder Line (balanced), BALUN, UNUN, matching networks/antenna tuners, cost vs performance vs value, and more will be covered in this seminar. Doing your homework for your transmission line purchase will save you time, money, and aggravation; plus you will have a quicker path to doing what you want done with this hobby....Get On The Air!!!

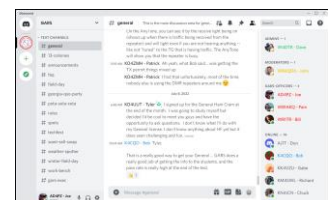
This is a GARS workshop to answer any questions about your Amateur Radio projects and adventures, and any clarifications you have about Steve's modulation presentation.

Feel free to bring any ham related questions you have including equipment setup and usage. We typically have 5 or more Elmers at each Workshop.

GARS would like to thank Jack McElroy KM4ZIA for his High-Altitude Balloons presentation.



Don't forget about our Discord utility for GARS announcements, news, activity spotting and more. See <http://www.gars.org> top of the home page. This is a sample of Discord. →



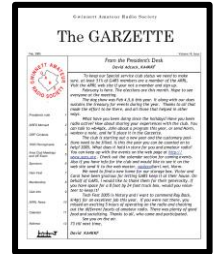


GARS Happenings

20 Years ago in the February 2005 GARzette:

- There is a good article about N2CQ, a homebrew QRP contest
- In 2005, there was "Hamming at 1600 Pennsylvania Avenue"
- There is an article about what it takes to be a participant in an ARES operation
- "Sunshine Act" was highlighted – it was about open discussions within the FCC

You can always browse the GARzette archive at <http://www.gars.org/newsletters>. 73, Bob, K4CQO, GARzette Editor



Health and Wellbeing – Sandy Jackson, KJ4DRO

Look for this resource on [Email](mailto:https://gars.org/contact/) (<https://gars.org/contact/>) and use it as a means to convey information about a GARS family member or Silent Key notification.

Net Managers Corner

Monday Night 2 Meter “Want, Swap, Sell, and Information Net”

GARS NEEDS MEMBERS TO SERVE AS NET CONTROL STATIONS!

GARS is a great Amateur Radio service club with the membership and awards to prove it. Our club is very busy and active, and we use the Monday night net to get timely information out to our members. Weekly participation is needed to make our net function well. There is only a small group of very dedicated people who make the net happen each week, and we need more members to volunteer to serve as Net Control Stations (NCS) on a rotating basis.

Out of almost 300 members, there are only five operators who serve as the NCS for the GARS net every Monday night. In no particular order, they are:

Ray – N4GYN David – KA4KKF Kevin – W4KIB Bill - WD4AMC Chuck – KK4TKJ

As GARS Net Manager (Chuck KK4TKJ), I would like to have more volunteers to fill NCS positions. I do plan and post the schedule months in advance. Any conditions will be accommodated that you as a rotating NCS need to place on the scheduling of your duties. If your plans change, I can make adjustments for the schedule to work, and I will make those changes happen as soon as I am notified of a problem. As Net Manager, I also send out reminders each week to let the NCS scheduled know he or she is NCS for the next Monday night net. In short, serving as a rotating NCS is a small duty but a great contribution to the club. The “Want, Swap, Sell Information Net” begins promptly at 19:30 every Monday night and runs about 30 minutes. As a scheduled NCS, you will request the assistance of a volunteer alternate NCS each time you have Net Control. Your simple duties will be to tune in to the GARS repeater, read the script, take a few notes and forward the information to me for record keeping.

Please lend a hand and contact (Chuck) via Email ([Click Here to Email our Net Manager](mailto:https://gars.org/contact/)) to help support the effort that makes GARS the great club that it is. See you on the Nets!

GARS Nominated Officers for 2025

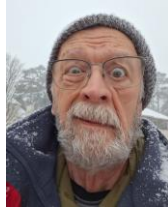
February each year, GARS has its officer elections. In the February meeting (2/18/25) any additional nominees can be provided and the present members will vote for the GARS officers. The current list of nominees:

- President – TBD
- Vice President – Richard Kitz, KM4SWL
- Treasurer – Glen Wendt, W3WWT
- Secretary – Harold Brown, KI4FPR
- Program Manager – Kevin Scott, K4GTR



GARS TechFest 2025

The GARS TechFest was originally scheduled for Jan. 11, 2025, but due to a winter storm, it had to be rescheduled. It was a FREE annual event specifically geared



scheduled for Jan. 11, 2025, but due to a winter held on Feb. 1, 2025. The GARS TechFest is towards amateur radio enthusiasts.

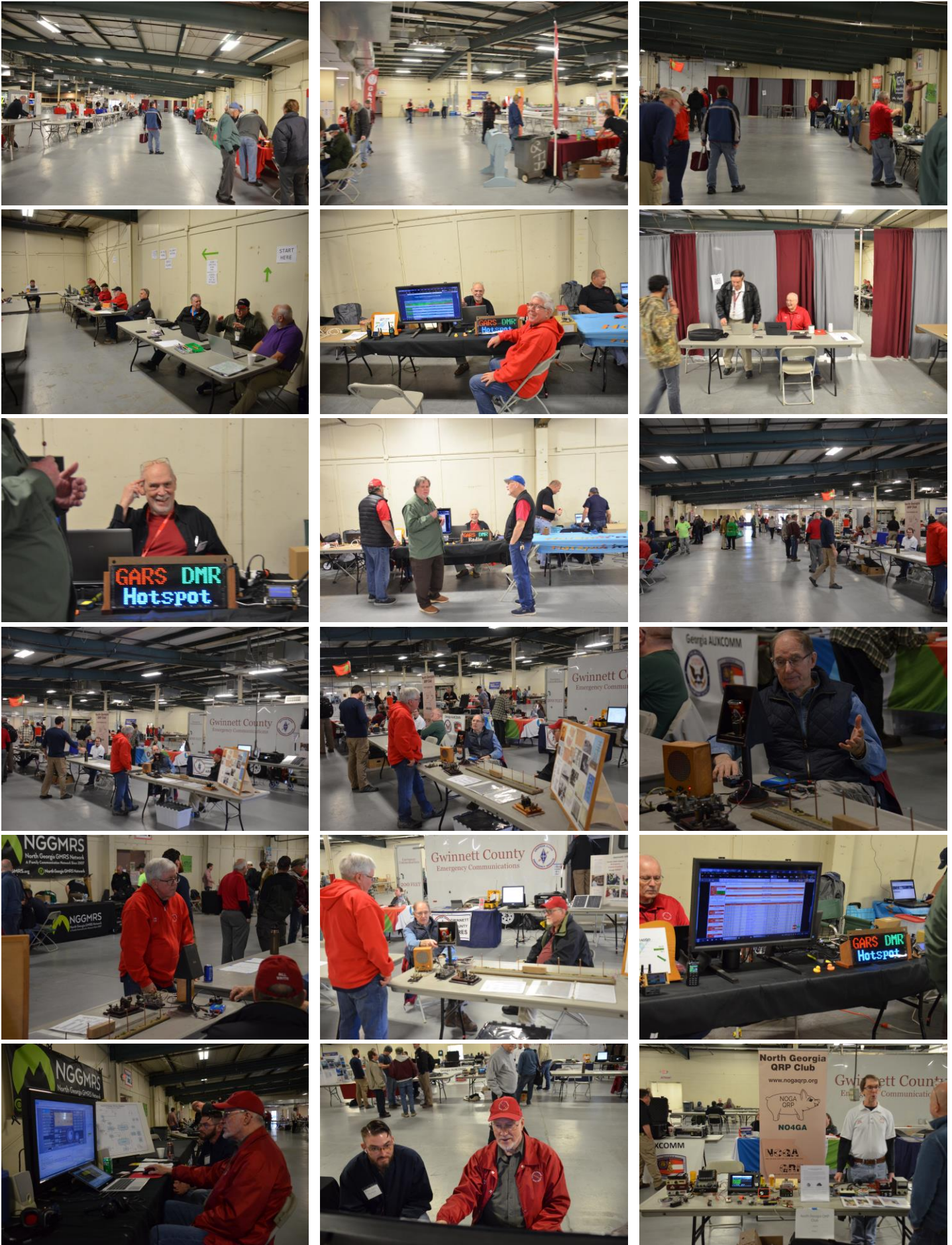
The Chili cook-off winners

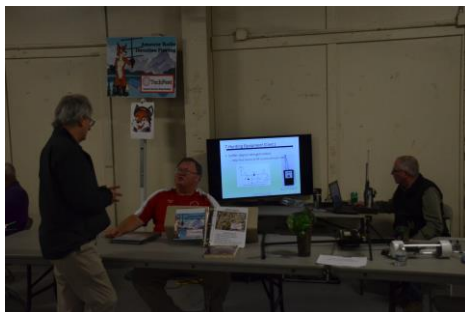
Cook-off winners: **1st Place** - Ernie Johnston WB4LVA, **2nd Place** - Sherryl Bailey N3MIU.



These are pictures commemorating the event







GARS also had an **exam session** at TechFest. There were 3 new Technicians (and one received a donated HT for passing his test and being under 19). There was one who passed General and another who passed his Extra exam. Congratulations to all.

Special thanks to the Ves that helped with the exam session:

K4CQO Bob Hoffmann
 KM4SWL Richard Kitz
 W4SHT Lynn Hatker
 WB2OGY Steve Back
 NF4L Nathanael Smith
 KQ4DWZ Douglas Hooper
 NG4H Bill Beguhn
 WS3V Bill Rudd
 WR1TR Bill Hawkins
 KK4TKJ Chuck Mc Cord
 KA4KBX Gary Poke
 KD4PCU Anna Pike

National HRO-500

Vintage Amateur Radio

de Bill Shadid, W9MXQ



Many months ago, I did an article on the National Radio Company, Inc., 1964 top line station. That included a beautiful NCX-5 Transceiver, VX-501 Remote VFO, NCX-A AC Power Supply/Speaker Console, NCL-2000 Linear Amplifier, and the HRO-500 Receiver. Subsequent articles took individual pieces of that station and provided additional details. Missing from those detail articles has been what is the cornerstone product in the group, the National HRO-500 VLF and HF Receiver.

The National HRO-500 was part of a limited and elite group of radios focused on both the amateur and commercial market in the late 1960's and into the 1970's. The only two in the same market at the same time and with at least some reference to the amateur radio market were the Collins 51S-1 (sold from 1959 to 1975) and the National HRO-500 (sold from 1964 to 1972). The HRO-500 is the subject of this article.



National HRO-500 Receiver

W9MXQ Collection

To be sure, Racal, Eddystone, Rhode & Schwartz, Mackay Marine, and others sold radios of this caliber, in this period, but they never seriously addressed the amateur radio market. (Not to mention having a price range beyond the expensive Collins and National products.)

The HRO-500 was made in five production groups with the first production (National Production Lot Series 75) in 1964 and the last being (National Production Lot Series 140) in 1972. This information comes from Jose Gavila, EG5AGV, who goes on with the details of these builds by time period:

| National HRO-500 Production Series by Year | |
|--|-----------|
| Series | Year |
| 75 | 1964 |
| 88 | 1966 |
| 102 | 1967 |
| 122 | Uncertain |
| 140 | 1972 |

EA5AGV

It has always been known to me (but supported by comments from EA5AGV) that some of the early (Series 75) HRO-500 radios had problems that were addressed as the first series was produced. The radio in my personal collection is a Series 122 unit so well beyond that time period.

Early HRO-500 Receivers had a crank on the main tuning knob as shown here:



Early HRO-500 with Crank Type Main Tuning Knob

RJ4F Collection

I have used HRO-500 Receivers with the crank dial. It was intended to give the users a convenient way to make large excursions. Later HRO-500 Receivers removed the crank and replaced it with a machined aluminum dial behind the main dial that allowed extra fast excursions. This is similar to the main plastic tuning knob and rear extra fast aluminum tuning knob on the Swan 350, 500, and 700 series Transceivers as well as the 600-R/RC Receivers and 600-T Transmitters. I must add that as an appreciator of this radio's design, I do like the looks of the crank even if it is a bit inconvenient to use.

Let's review some of the radio's specifications. In keeping with marketing at the time, the radio is fairly large and is built like a vacuum tube radio even though it is 100% solid-state. (Well, all solid state except for the pilot lamps!) The pilot lamps draw the majority of power used by the receiver. Here is a review of power consumption:

| HRO-500 Power Consumption - Using the Internal Power Supply | | |
|--|---------------------------------|---------------------------|
| Status: | At Audio Power Level of: | Power Consumption: |
| Pilot Lamps "ON" (Receiver Running) | 50 milliwatts | 8 Watts |
| | 2 watts | 15 Watts |
| Pilot Lamps "OFF" (Receiver Running) | 50 milliwatts | 2.4 Watts |
| | 2 watts | 9 Watts |

The above is an untechnical review but at the time, high power consumption of vacuum tube radios vs low power of solid-state circuits was often talked about. Obviously, the radio looked better with the lamps on!! Just to be clear, there was a power savings over the HRO-500's predecessor, the HRO-60. That tube receiver drew 115 watts in operation.

The physical characteristics of this low power consumption receiver of the day is 7-5/8" x 16-1/2" x 12-3/4" (HWD). It weighed 32 pounds. It has an internal power supply that ran from a 117/234 VAC or 12 VDC feed.

The radio had sensitivity specifications typical of the day with a rating of 1.0uV for 10 dB S/N. That sounds insensitive for us today. My own tests with my HRO-500 for this article found that any signal I could hear on my Yaesu FTdx-101MP that I could copy on the HRO. In most cases, with equal clarity. Selectivity was particularly good for the day with crystal filter bandwidths built in for 500, 2500, 5000, and 8000 cycles (Hz). Shape factor of the 2500 filter was 2.5:1 – a specification that is respectable today.

In keeping with the HRO-500's period of manufacture, it is built like a vacuum tube radio. It included dozens of germanium transistors and many diodes.



Note that all transistors not mounted to the chassis as a heat sink (Like Q-20 at the upper left corner of the picture to the left) were mounted in sockets (like Q-23 and Q-12 to the right). Today this presents problems with corrosion in so many unsoldered, low current, connections in the radio's signal path.

W9MXQ

All the devices in the radio have become difficult to find in today's world. Ironically, while none of the solid-state devices are easily sourced today, virtually all previous National HRO Receivers, clear back into the 1930's, can have any tube sourced and used as a replacement in the old radio. Just one of the many "blessings" of modern technology!

One significant upgrade with the HRO-500 (over earlier HRO receivers) was direct frequency readout. While it was much improved on the immediate predecessor radios (the HRO-50 and HRO-60 models), the HRO-500 was even more direct and simple to read. It was more accurate, too, and was quite linear across its 500 kHz range on each band. Given that the readout remained mechanical it is a tribute to National Radio Company's engineering staff that they managed a system that accommodate a linear mechanism with nearly as linear control of the VFO. Let's look at an example of setting and reading frequency on the HRO-500 dial. For this example, we will be tuning the receiver to a frequency of 7.253.0 KC (kHz). But, before we start, I want to mention that tuning the HRO-500 is different than most radios of the day – and certainly different from what we do today. Once learned, it is straight forward – but it is a bit different from the Collins, Drake, Hallicrafters, Hammarlund, and Swan radios of the day. It is even different from other National radios. Of course, it is understood that the tuning process of any previous HRO series receiver could be referenced in the same way.

Let's do this in steps.

Step 1: Set the bandswitch (BAND MC) to the range that includes the 7.00 MC (MHz) band:



Note the "BAND MC" switch – lower center in this picture – lower left-hand corner of the Front Panel. In this example the selection is "4.0-10" – which includes the frequency we want to tune.

W9MXQ

Step 2: Set the SYNTHESIZER TUNE control:



Reference above picture. Tune the SYNTHESIZER TUNE control until the readout over the main tuning dial says "7.0," meaning that the lowest frequency on the range we are tuning is 7.0 MC (MHz). Adjust the SYNTHESIZER TUNE control until the PHASE LOCK light (see at left) is extinguished. The SYNTHESIZER TUNE is now correctly set.



Using the readout window in the upper left-hand corner of the picture above, peak noise in the receiver speaker for maximum by adjusting the PRESELECT TUNE control. There is an arc in this readout window corresponding to each of the five frequency bands selectable with the BAND MC switch.

Now to get on frequency – I have chosen 7.253.0 MC (MHz) – tune the main tuning knob to three kHz above the indicator window showing "250." The radio is precisely tuned to 7.253.0 MC (MHz).

Three Pictures - W9MXQ

The synthesizer in the HRO-500 takes the place of the heterodyne crystals used in other superheterodyne receivers of the day. In the case of the HRO-500 this amounts to heterodyne frequencies allowing coverage, in 500 KC (kHz) band segments from 5 KC (kHz) to 30 MC (MHz). That is the equivalent of sixty (60) crystals that would do the same work as this synthesizer – with comparable

stability. At the time, the HRO-500's one notable competitor – the General Coverage Collins 51S-1 HF Receiver, did the work of the National's Synthesizer using individual crystals. The Collins 51S-1 operated in 1.0 mc (MHz) ranges for a total of thirty crystals.

When you use a radio in what I call the Laboratory Grade¹, the concept of just “tuning the bands” can become a bit less convenient than the usual SWL or Ham Radio Receiver. But, in my judgement, the HRO-500 is easier to use than the Collins 51S-1, mentioned as one of its competitors in the ham radio field.

There were certainly features in the HRO-500 that were not available in most other top line radios of the day. One is Passband Tuning (reference the PASSBAND TUNE control (right hand center knob on the front panel). This allowed adjustment of the signal through the crystal filter passband of the radio. It also allowed selection on SSB of Upper or Lower Sideband (USB or LSB). The radios that offered this feature were most Drake receivers, starting in 1957 with the 1-A in 1957 and continuing with all top line Drake Receivers right through the last R-8B in 2005. (This feature was oddly absent in the Drake 2-C Receiver.) Collins offered this feature on the 75A-4 then dropped it on the S-Line radios – only returning it with their last ham radio transceiver, the KWM-380. In my opinion, this may well be the single most effective method of fighting QRM on the ham bands.

Another feature of note was rejection tuning (REJECTION TUNE). See the control below (to the left of the PASSBAND TUNE). This feature allowed to specific noise or tones to be notched out of the passband. It is used as a Notch Filter as found on some other radios of the day. Rejection Tuning, as such, was a significant feature on the second version of the Collins S-Line Receivers, starting with the 75S-3.



For reference – see this upper right-hand quadrant of the HRO-500 Front Panel. This shows the location of the PASSBAND TUNE, and the REJECTION TUNE controls.

Users of Drake radios will find the operation of Passband Tuning to be like what is offered here by National in this receiver.

W9MXQ

National offered features in the HRO-500 to play to a wide variety of customers. Many features were not offered at the time on radios focused only on amateur radio. For instance, there was an extensive array of options to remote control many features of the radio. For instance, the radio could be adapted, via rear panel connections, to remote control AF and RF Gain. There were also systems to remotely control AGC and the BFO. Much of this tied to laboratory and/or commercial shipboard use of the radio. Detector stage output was available to feed all manner of special mode decoding. As one would expect, the radio could be muted for use with a companion transmitter. Muting the radio was flexible enough to allow the process to be handled by a contact closure to ground or an application of muting voltage from the transmitter, or control system, to the receiver.

There were two major options that National sold with the HRO-500. One was the HRO-500-TS Speaker Console, and the other was the LF-10 Preselector. They are shown here:



This is a front view of the HRO-500-TS Speaker Console for the HRO-500 Receiver. It is the same height as the receiver and matched it in color.

There is little contrast in colors in this front view, but construction is the same as – and matches – the radio.

The strip along the bottom edge says, “National Radio Company.”

W8ZR Collection



The National LF-10 Preselector

for HRO-500 Operation below 500 kc (kHz)
W8ZR Collection

The LF-10 Preselector allowed for high sensitivity receive below 500 kc (kHz) on the HRO-500 Receiver. As delivered, the HRO-500 had a documented specification of 25 uV sensitivity below 500 kc (kHz) so serious use of the radio at those frequencies required the use of a front-end amplifier. This was similar to the performance of the Hallicrafters SX-117 Receiver on VLF frequencies. The SX-117 required the Hallicrafters HA-10 Low Frequency Tuner/Preselector to be useful at such frequencies. (I must add here that while there is a similarity in concept – the LF-10 / HRO-500 combination far exceeded the performance of the HA-10 / SX-117 on those VLF (Very Low Frequency) bands. The HA-10 had no active devices – it merely provided front end tuned circuits. The LF-10 was a complex unit with active devices in the signal path. (There was a later, LF-10A, unit as well – but I have no information on any extra features, if any, included.)

The particular HRO-500 used for this article has some history. Before arriving with me, it was refurbished and sold to my long-time friend, article collaborator, and article proofreader, Bob Bailey, W9DYQ. The restorer and seller for this radio was Maximilian Fuchs, of Maximilian Associates, on Swampscott, Massachusetts. Fuchs had been an employee of National Radio at the time of its closure in the early 1990's. Apparently, he purchased considerable inventory of National amateur radio product and parts at the time of the final closing. For many years he advertised his parts for and complete HRO-500 Receivers and the National NCL-2000 Linear Amplifiers. He had other product parts as well – plus documentation on popular products back into the 1930's.

There was at least one successor to the HRO-500 – but it never reached the amateur radio market. That was the HRO-600 that, after a run since 1935, removed the famous PW Dial so recognizable as the main tuning dial on every HRO receiver from the original HRO to the last HRO-500.



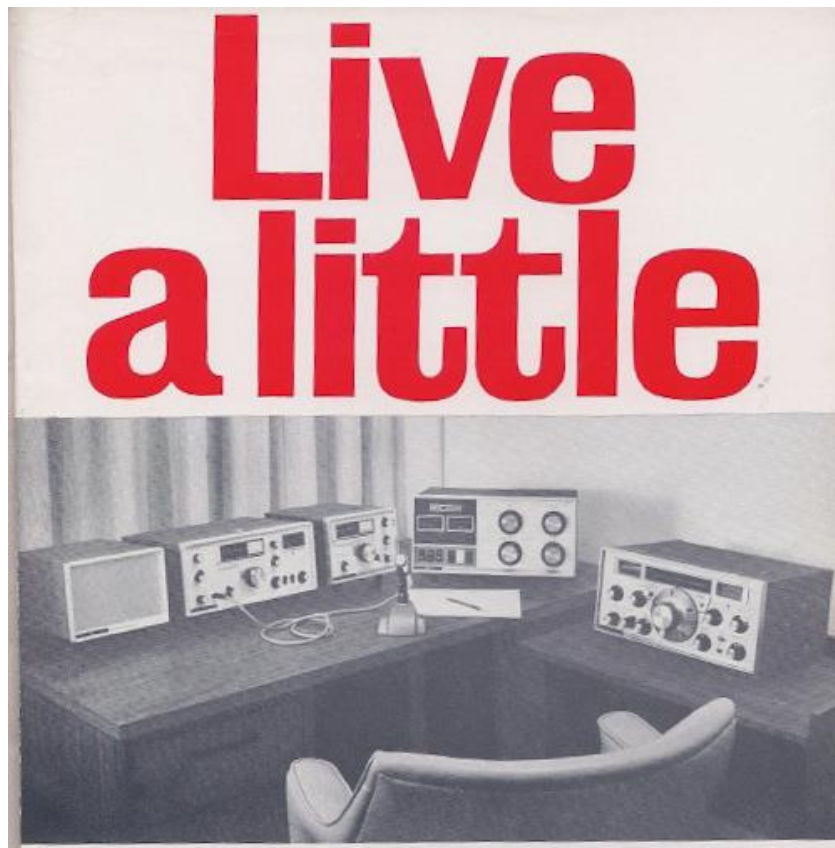
National HRO-600 Receiver – about 1970

W8ZR Collection

The tuning knob and readout were part of a center panel modular insert. Other systems could be substituted to control frequency in other ways. Perhaps the HRO-600 can be part of a future article.

I cannot close this article without showing some sales and marketing advertisements from National Radio Company during the sales cycle of the HRO-500 Receiver and its stablemates.

First is my favorite – National fan or not, you wanted to sit in that chair!!



1964 Display Advertisement – National Radio Company

QST Magazine

Inside Back Cover – December 1964



The group shown is part for part in the collection at W9MXQ – including that collectable Electro-Voice 664 Microphone and Base. Late in 1964, at the time of this advertisement, the National Radio equipment items and their list prices were:

| | | | |
|------------------------------|-------|------------------------------|--------|
| NCX-A Power Supply/Speaker | \$110 | NCL-2000 HF Linear Amplifier | \$585 |
| NCX-5 HF Transceiver (80-10) | \$585 | HRO-500 HF Receiver | \$1295 |
| VX-501 Remote VFO | \$225 | | |

To give you an idea how things changed, check part of a brochure and prices from National in 1976 (effective 1 May 1976). The brochure shows two of the products listed in the above advertisement (among other products National was selling at the time):

NCL-2000

Linear Amplifier. A full 10 Db gain. 20 watts in 2000 watts out. Can be driven with one watt. Continuous duty design utilizes two 8122 ceramic tetrode output tubes, designed for both AM and SSB operation. The industry standard for 12 years. Thousands in use all over the world.



Price: \$1,200

HRO-500

The ultimate short wave receiver. This synthesized (phase lock loop) receiver incorporates all facilities for AM, Single Side Band (SSB), and CW reception in all frequencies from the bottom of the very low frequency band (VLF) to the top of the high frequency band (HF). National's "dead accurate" dial means no searching for transmissions. Dial up the frequency and it's there: aeronautical, marine, CB, amateur, military, etc. Continuous coverage.



Price: \$3,000

PRICES EFFECTIVE MAY 1, 1976 AND SUBJECT TO CHANGE WITHOUT NOTICE

**National Radio Company, Inc.
Published Brochure**

I appreciate that you read my articles. Remember that I am open to questions and comments anytime at my email address, W9MXQ@TWC.com.

A special note of thanks to my proofreader, Bob Bailey, W9DYQ. Bob is a lot more than a proofreader as he nearly always adds commentary that makes it into the article.

NOTES AND COMMENTS:

¹ Radios noted as Laboratory Grade references their focus on experimental and research use – perhaps, but not necessarily, used for fixed frequency use or for monitoring of RF data. Such receivers are not necessarily designed for use in tuning a wide variety of different frequencies but still possessing the ability to work anywhere in a wide spectrum. I also consider radios designed for shipboard use in Merchant Marine or ocean Oil Platform installations. When National no longer made the HRO-500, there was wide advertising in ham radio specific publications by commercial shipping companies looking for available inventory of these radios. I sold one of my early National HRO-500 Receivers to Matson Shipping Lines in the 1980's.



GARS Membership

New Members in January

Daniel Diluzio (KE4DLX)
Robert Thacker ()

New Members: 2

**Total Members as of
February 1, 2025
331**

Join GARS members for our:

- weekly lunch bunch at 11:30 AM most Fridays
- weekly breakfast gathering at 8:00 AM most Saturdays



Friday weekly gatherings are held at the [Chilli's](#) at:

[947 Lawrenceville Suwanee Rd
Lawrenceville, GA 30043](#)

Saturday weekly gatherings are held at the [Cracker Barrel](#) at:

[75 Celebration Dr
Suwanee, GA 30024](#)

Birthdays in February

Marvin Atherton (KG4FHB)
Shari Branson
Michael Curtis (KK4WWB)
Juan Manuel Dominguez (N5JMD)
Tom Forkner (KQ4EWO)
Eddie Foust (K4AIH)
Paul Francis (KG4HCX)
Sandy Jackson (KJ4DRO)
Suzy Jones (KK4MWC)
Gail LaBerge (N4OCO)
Bruce Lindsey (K0GNB)
Edward Lodden (KX4KL)
David May (KK4SWN)
Carlton McPherson (WA4ZUW)
Aaron Morris (KG4ALB)
Don Pace (KQ4LWU)
George Sensibar (W9RR)
Lori Silva (KK4NFW)
Luann Smith
Lee Stone (KT4LS)
Emily Wagner (KN4GZJ)
Sharon Willet (KM4TVU)

GARS MEMBERSHIP

Your current GARS membership status is shown in the monthly newsletter e-mail towards the bottom of the message. To become a GARS member, or to renew your GARS membership, please visit our website – www.gars.org/gars/membership/. To make changes to your GARS membership (moved, new e-mail address, new phone number, etc.), please contact the Membership Chair at Email (<https://gars.org/contact/>) with any changes to your Membership information.

Membership Chair: Karen Albritton, KI4HPP

Committee Members: Dave Bruse, W4DTR

ARRL MEMBERSHIP

To update your ARRL membership information, please visit their website - <http://www.arrl.org>.

MAINTAIN YOUR LICENSE

You can update your Amateur Radio license information with the FCC at their website for free - <https://www.fcc.gov/wireless/universal-licensing-system>. License renewal is subject to the \$35 FCC fee.



Donating to GARS

Your GARS donation can be used for a certain purpose by donating to one of these funds:

- GARS SK Memorial Fund for Education (to remember and honor Silent Keys);
- GARS Scholarship Fund (Administered by the ARRL for awarding scholarships);
- GARS General Fund (any club purpose).

GARS has joined these rewards programs (a portion of every purchase you make through these merchants may be donated to GARS):

- Kroger Community Rewards program.

For more information on how to sign up for these rewards programs, or to donate to GARS, visit

<http://gars.org/gars/donations-to-the-club>

GARS on Social Media



Discord Request:

<http://gars.org/discord>



Groups.io:

<http://gars.org/groups.io>



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<http://gars.org/facebook>



Follow GARS on X:

https://x.com/GARS_Hams



Join GARS on YouTube:

<http://gars.org/youtube>

GARS Mail Address:

GARS
P.O. Box 492531
Lawrenceville, GA 30049

Officers



Kevin Igarashi-Ball, President W4KIB



Alex Kowalchuk, Vice President AK4AM



Drew White, Secretary KQ4NUQ



Glen Wendt, Treasurer W3WWT



Kevin Scott, Program Manager K4GTR

Managers and Committee Chairs



Karen Albritton, Membership Chair KI4HPP



Dave Bruse, VE Team Leader W4DTR



David Adcock, Webmaster KA4KKF



Ralph Pickwick, Education Chair KJ4CNC



Earl Whatley, Apparel Manager AF4FG



Bob Hoffmann, GARzette Editor K4CQO



Eddie Foust, Repeater Chair WD4JEM



Mike Weathers, WAS / DXCC QSL Card Checker and Historian ND4V



Chuck McCord, Net Manager KK4TKJ



Steve Back, Technical / RFI Advisor WB2OGY



Dallas Mellichamp, Workshop Leader N4DDM



Sandy Jackson, Health and Wellbeing KJ4DRO



Kevin Igarashi-Ball, Multimedia Chair W4KIB



Dallas Mellichamp, Georgia QSO Chair N4DDM



Neil Derryberry, Elmer Manager WD4NET



Edwin Henderson, TechFest Chair W4BSR



Open Winter Field Day Chair, Field Day Chair

Directors and Trustees



Joe Biddle, AD4PZ



Kyle Albritton, W4KDA



John Davis, WB4QDX



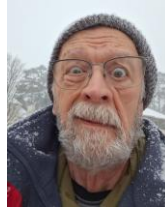
Bill Cherepy, WB4WTN W4GR Trustee

GARS Meeting Minutes

GARS – MEETING 1/14/2025

- President Kevin Igarashi-Ball (W4KIB) opened the meeting at 7:00 p.m. and closed the meeting at approximately 8:20 p.m.
- Acknowledgment of several January birthdays within the group.
- Treasurer Report: Glen (W3WWT)
- Membership (W4KIB): Currently there are 348 members
- Programs Update (Kevin W4KIB)
 - Tonight's presentation - High Altitude Balloons – Jack McElroy
 - Open slots for February and March – if interested to present, contact Kevin Scott (K4GTR)
- Officer Election coming up in February
- Education: Ralph (KJ4CNC)
 - Apparel available to pickup
 - ARISS contact at Woodward Mill is scheduled for the week of February 17th. Follow groups.io for details on the stream
- Upcoming Events
 - TechFest: Rescheduled for 2/1. Call for volunteers
 - Dog Show: 3/26-3/30. Call for volunteers
- New Business / Additional Announcements
 - Alex (AK4AM) – Hops and Hams Event at Monkey Wrench Brewing on 1/18 from 1-8pm.

Workshop Minutes – January 21, 2025

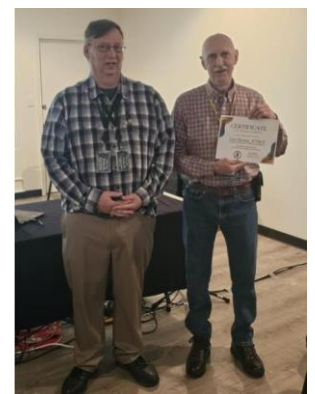


Number in Attendance: 0

Georgia had another winter weather event and it was decided to cancel the Workshop in

New SEC Installed

At the February 1 TechFest, a Certificate of Appreciation was awarded to Lee Stone, KT4LS, for his service as SEC (Section Emergency Coordinator) for the last three years. Lee is stepping down to enjoy some much deserved personal time. Stepping into his place, Frank Dean, K4SJR, will be resuming his previous position (GA SEC Nov. 2016 - Jan. 2022) as Georgia Section Emergency Coordinator.





Events – GARS and others

ARRL CONTESTING INFO

From ARRL Contest Calendar

> For more information click the links <

January 2025

- 1 [Straight Key Night](#)
- 4 [Kids Day](#)
- 4-5 [RTTY Roundup](#)
- 18-20 [January VHF](#)

February 2025

- 10-14 [School Club Roundup](#)
- 15-16 [International DX – CW](#)

March 2025

- 1-2 [International DX– Phone](#)

April 2025

- 13 [Rookie Roundup – Phone](#)

May 2025 (no ARRL Contests)

June 2025

- 7-8 [International Digital Contest](#)
- 14-16 [June VHF](#)
- 21 [Kids Day](#)
- 28-29 [Field Day](#)

July 2025

- 12-13 [IARU HF World Championship](#)

August 2025

- 2-3 [222 MHz and Up Distance Contest](#)
- 16-18 [10 GHz & Up – Round 1](#)
- 16-17 [EME - 2.3 GHz & Up](#)
- 17 [Rookie Roundup – RTTY](#)

September 2025

- 13-15 [September VHF](#)
- 13-14 [EME - 2.3 GHz & Up](#)
- 20-22 [10 GHz & Up - Round 2](#)

October 2025

- TBD [Collegiate QSO Party](#)
- 11-12 [EME - 50 to 1296 MHz](#)
- 20-24 [School Club Roundup](#)

November 2025

- 1-3 [Nov Sweepstakes–CW](#)
- 8-9 [EME - 50 to 1296 MHz](#)
- 15-17 [Nov Sweepstakes–Phone](#)

December 2025

- 5-7 [160 Meter](#)
- 13-14 [10 Meter](#)
- 21 [Rookie Roundup–CW](#)

For more information:

<http://www.arrl.org/contest-calendar>

HAMFEST CALENDAR

[Please confirm the status of a Hamfest before making plans to attend]

02/07/2025 - 02/09/2025

[Orlando HamCation, Southeastern Division Convention](#)

Location: Orlando, FL

Type: ARRL Convention

Sponsor: Orlando Amateur Radio Club

Website: <http://www.hamcation.com>

02/15/2025 - [Highlands County Amateur Radio Club Hamfest](#)

Location: Sebring, FL

Type: ARRL Hamfest

Sponsor: Highlands County Amateur Radio Club

02/22/2025 - [Dalton Hamfest](#)

Location: Dalton, GA

Type: ARRL Hamfest

Sponsor: Dalton Amateur Radio Club

Website: <https://www.qrz.com/db/W4DRC>

02/28/2025 - 03/01/2025

[BirmingHamfest, ARRL Alabama Section Convention](#)

Location: Trussville, AL

Type: ARRL Hamfest

Sponsor: Birmingham Amateur Radio Club

Website: <http://birminghamfest.org>

03/22/2025 - [DeKalb County Amateur Radio Club Swap Meet](#)

Location: Fort Payne, AL

Type: ARRL Hamfest

Sponsor: DeKalb County Amateur Radio Club

Website: <http://w4dgh.org/meet>

04/05/2025 - [Daleville Area Hamfest](#)

Location: Daleville, AL

Type: ARRL Hamfest

Sponsor: Daleville Area Amateur Radio Service

Website: <https://daleville.us/daleville-area-hamfest>

04/12/2025 - [TarcFest](#)

Location: Tampa, FL

Type: ARRL Hamfest

Sponsor: Tampa Amateur Radio Club

Website: <http://www.hamclub.org>

04/26/2025 - [Wiregrass ARC - Spring Tailgate](#)

Location: Headland, AL

Type: ARRL Hamfest

Sponsor: Wiregrass Amateur Radio Club

Website: <http://w4dhn.org>

05/10/2025 - [EPARS Hamfest](#)

Location: Dade City, FL

Type: ARRL Hamfest

Sponsor: East Pasco Amateur Radio Society

Website: <http://eparsonline.org>

For more information: www.arrl.org/hamfests-and-conventions-calendar

When searching by division, remember some states adjacent to GA are in different divisions: Southeastern: GA, AL, FL Delta: TN Roanoke: NC, SC



| GARS Events Calendar for 2025 | | GARS Recurring Calendar |
|---|--|---|
| TechFest Winter Field Day Dog Show Fundraiser Spring Technician HamCram Georgia QSO Party North metro area Fox Hunt Memorial Day Parade ARC/KARC Hamfest Field Day Summer General HamCram Fall Technician HamCram JOTA Stone Mt. Hamfest Holiday Party | February 1 2025 January 25-26 2025 March 2025 March 29-30, 2025 April 12-13 2025 April 2025 May 26 2025 June 7 2025 June 28-29 2025 July 2025 September 2025 October 2025 November 1-2 2025 December 2025 | <ul style="list-style-type: none"> 2nd Tuesday of the month at 7 pm (except December) Monthly Club Meeting 690 Airport Rd, Lawrenceville, GA 30046 3rd Tuesday of the month at 7 pm (except December) Monthly Workshop 690 Airport Rd, Lawrenceville, GA 30046 3rd Sunday of the Month at 3 pm GARS Ham Exam Session 690 Airport Rd Lawrenceville, GA 30046 Every Monday at 7:30 pm: GARS Want, Swap, Sell, and Information Net on the GARS 147.075 MHz repeater Every Monday at 8:30 pm: ARES Training on the GARS 147.075 MHz repeater Every Friday at 11:30 am, GARS Lunch at Chilli's Every Saturday at 8:00 am GARS Breakfast at Cracker Barrel |

GARS Calendar for February 2025

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|------------------------------------|---|-----------|----------|--|---|
| | | | | | | 1 8:00 AM Breakfast at Cracker Barrel |
| 2 | 3 7:30 – 8:00 PM 2M Net | 4 7:00 PM Exec Meeting | 5 | 6 | 7 11:30 AM Lunch at Chillis | 8 8:00 AM Breakfast at Cracker Barrel |
| 9 | 10 7:30 – 8:00 PM 2M Net | 11 7:00 PM Meeting EAA 690 Hangar | 12 | 13 | 14 11:30 AM Lunch at Chillis | 15 8:00 AM Breakfast at Cracker Barrel |
| 16 3:00 PM GARS Ham Radio Exams, EAA 690 Hangar | 17 7:30 – 8:00 PM 2M Net | 18 7:00 PM Workshop Meeting EAA 690 Hangar | 19 | 20 | 21 11:30 AM Lunch at Chillis | 22 8:00 AM Breakfast at Cracker Barrel |
| 23 | 24 7:30 – 8:00 PM 2M Net | 25 | 26 | 27 | 28 11:30 AM Lunch at Chillis | |



Local Ham Radio Exams & Meetings

GARS Ham Radio Exams

GARS Exam Sessions are held the 3rd Sunday of the month

Preregistration is REQUIRED

Doors open at 2:45pm, exams start promptly by 3:00pm

For more information and to preregister, please visit <https://gars.org/exams/>

GARS VE-Team

VEC: W5YI-VEC

EAA 690 Hangar

690 Airport Rd

Lawrenceville, GA 30046

GARS VE Team Leaders

E-mail: exams@gars.org.



December 2024 Results

The GARS VE Team exam session results from December 15th.

2 New Technicians:

- SE YUEN KO - KR4AQA
- Kazumasu K Takikawa - KR4AQR

2 New Generals:

- BILLY H TYSON - KR4APL
- Nicholas Picel - KQ4UTL (passed both Technician & General)

Special thanks to the Volunteer Examiners who made this exam session possible:

W4DTR - David Bruse

K4CQO – Bob Hoffmann

KJ4CNC – Ralph Pickwick

KM4SWL - Richard Kitz

NG4H - William Beguhn

W4SHT - Lynn Hatker

WS3V - William Rudd

Thanks & 73, Chuck Mc Cord KK4TKJ (Co-CVE)

Local Ham Radio Exams

In order to find an exam session near you, please visit

http://www.arrl.org/exam_sessions/. Contact the information in the listing for further information.



Local Ham Radio Meetings

In order to find a local Ham Radio Club meeting near you, please visit

<http://www.arrl.org/find-a-club>. Contact the club for meeting information.



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|--------------|----------------|
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| Southeast | (800) 444-7927 |
| Mountain | (800) 444-9476 |
| Mid-Atlantic | (800) 444-4799 |
| New England | (800) 444-0047 |



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|---------------|-------|
| Business Card | \$50 |
| 1/4 page | \$125 |
| 1/2 page | \$150 |
| Full page | \$200 |

For swap items, post and see items on GARS groups.io (<https://groups.io/g/GARS>).

Ready to take your Ham Radio Exam?

Go to <https://GARS.org/exams/> to learn more, and to register for an upcoming exam session.